



IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): DAVID OLSEN

Confirmation No.: 6975

Application No.: 10/665,752

Examiner: BROOKE, M.

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Group Art Unit: 2853

Title: FLUID INTERCONNECT IN A REPLACEABLE INK RESERVOIR FOR PIGMENTED INK

Mail Stop Appeal Brief-Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith in **triplicate** is the Reply Brief with respect to the Examiner's Answer mailed on Nov 15, 2004. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:) Art Unit: 2853
David Olsen) Examiner: Brooke, M.
Serial No. 10/665,752)
Filed: 09/19/2003)
For: FLUID INTERCONNECT IN A)
REPLACEABLE INK RESERVOIR)
FOR PIGMENTED INK)

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal was taken from the Office's final rejection of Claims 1-3, 5-38 mailed April 5, 2004, in the subject application. Appellant's brief on appeal was filed September 13, 2004. The Examiner's Answer was mailed November 15, 2004. This brief is in reply to the Examiner's Answer.

The statement of the grounds of rejection set out in the Examiner's answer, at pages 3-6, appears identical to the grounds asserted in the Final Rejection, and are rebutted by the corresponding argument in appellants's opening brief on appeal.

The Examiner's "response to arguments" appearing at section 11, pages 6-11 is addressed herein.

Claims 1-3 and 5-7

In the “response to arguments” section, the Examiner has placed labels on FIG. 1A of Soga, allegedly on “various elements in accordance with the Appellant’s claims.” Appellant does not agree with the accuracy of the labeling. Element 7a has an Examiner-applied label of “reservoir material.” This label is contradicted by Soga, which refers to element 7a as an “ink passing member;” see for example, 7:15-16, 8:42. The ink passing member 7a is adjacent the tank meniscus member 5a, but outside the ink chamber 2a. (“The tank meniscus member 5a and the ink passing member 7a are disposed in this order in the joint port 6a of the ink chamber 2a.” Soga, at 8:8-10) The ink chamber 2a has disposed therein an ink holding member 3a, which holds ink therein by capillary force. It is significant that the member 3a is called by Soga an “ink holding member, while the member 7a is called by Soga an “ink passing member.”

A prima facie case of obviousness has not been established with respect to Claims 1-3 and 5-7. Neither Soga nor Ma, alone or in combination, disclose, teach or suggest each and every limitation of any of Claims 1-3 or 5-7, including at least:

“ . . . the screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow said dispersed colorant particles to pass therethrough.”

as recited in Claim 1, from which Claims 2, 3 and 5-7 depend. Moreover, the Examiner made no express finding that either Soga or Ma disclose, teach or suggest the quoted limitations.

The Examiner asserts, at page 8, first four lines, without foundation or support, that, although Soga is silent as to the type of ink that is used, “one of ordinary skill in the ink jet art would clearly recognize that any type of ink could be used, as the screen I can be designed to accommodate any type of ink.” This assertion is newly made, although appellant had previously pointed out, in the response filed June 7, 2004 during prosecution before the primary examiner, that the Examiner had failed to cite or refer to any other reference as allegedly showing the limitation quoted above. Appellant traverses the quoted statement as to the recognition by one of ordinary skill in the art. It is certainly not the case that any type of ink could be used in the ink tank of Soga, or that

the meniscus member 5a could be designed to accommodate any type of ink. Different types of inks in ink containers, including replaceable ink reservoirs, bring their own sets of problems, and Soga does not address use of pigmented inks. Moreover, the failure to support this statement was error. See, e.g. In re Zurko, 59 USPQ 1693, 1697 (Fed. Cir. 2001); MPEP 2144.04 (A) (B) (C), establishing that it is not appropriate for the examiner to take official notice of facts without citing a prior art reference, where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known, and that a holding that general conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection.

The Examiner further asserts that the only question is whether or not one of ordinary skill in the art would have found it obvious to modify Soga to have pigmented ink, and answers this question in the affirmative. However, that is not the only question. First there must be some motivation to modify Soga to use pigmented ink in the ink tank, the pigmented ink comprising solid particles of a colorant dispersed in a carrier fluid. Second, Soga must be modified to include a screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow the dispersed colorant particles to pass therethrough.

Ma is cited only for its disclosure of pigmented inks for ink jet printers, and that certain pigmented inks give images having good print quality, water and smear resistance, lightfastness and storage stability. Such generalized allegations of motivation are insufficient to support a motivation to one of ordinary skill in the art to modify Soga in the manner described by the Examiner.

Moreover, the allegation that given the teachings of Soga, one of ordinary skill in the art would have known to make a screen having a pore size that is large enough to pass the pigmented particles but small enough to prevent the passage of air is the product of improper hindsight. Soga does not address or recognize the use of pigmented inks, and so there is no suggestion in Soga to deal with passage of particles of colorants. Accordingly, a *prima facie* case of obviousness has not been established with respect to Claims 1-3 or 5-7, and the references do not teach or suggest the subject matter of these claims.

Claims 8-13 and 27-31

The Examiner has failed to establish a prima facie case of obviousness with respect to Claims 8-13, for reasons similar to those already addressed regarding the rejection of Claims 1-3 and 5-7. Neither Soga nor Ma, alone or in combination, disclose, teach or suggest at least the following limitations of Claims 8-14:

“ . . . providing the ink container with an interconnect outlet port, and with a body of reservoir material disposed in the container, the ink container further including a screen disposed across the interconnect outlet port and in contact with the reservoir material, the screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow said dispersed colorant particles to pass therethrough;

bringing the interconnect outlet port and the screen into contact with the fluid interconnect inlet port . . . ”

as recited in Claim 8.

Appellant respectfully submits that a prima facie case of obviousness has not been established with respect to Claims 27-31. Moreover, neither Soga nor Ma, alone or in combination, disclose, teach or suggest each and every limitation of any of Claims 27-31. For example, neither Soga nor Ma disclose, teach or suggest at least the following limitations of Claims 27-31:

“ . . . an outlet screen disposed across the interconnect outlet port and in contact with the reservoir material . . . ”

and

“ . . . bringing the outlet screen into contact with the fluid interconnect inlet port . . . ”

as recited in Claim 27.

The Examiner argues, at page 9, that in Soga's FIGS. 3 and 4, the screen 5a and the interconnect outlet port 6a are necessarily brought into contact with the interconnect inlet port 14a. This is clearly not the case. The ink passing member 7a prevents the meniscus member 5a from coming into contact with the interconnect inlet port 14a, since it is interposed between the member 5a and the port 14a. Thus, the argument of inherency fails.

Moreover, Soga does not disclose the limitations of "providing the ink container with an interconnect outlet port, and with a body of reservoir material disposed in the container, the ink container further including a screen disposed across the interconnect outlet port and in contact with the reservoir material, the screen having a pore size small enough to prevent air passage at operational pressures and large enough to allow said dispersed colorant particles to pass therethrough" and the limitation "bringing the interconnect outlet port and the screen into contact with the fluid interconnect inlet port" in the claimed combination.

Appellant therefore respectfully submits that Soga as allegedly modified by Ma does not disclose, teach or suggest each and every one of the claimed limitations in the claimed combinations. The rejections of Claims 8-13 and 27-31 should be reversed.

Claims 14-20

Appellant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to any of Claims 14-20, for reasons similar to those already discussed regarding the rejection of Claims 1-3, 5-7, 8-13 and 27-31. Neither Soga nor Ma, alone or in combination, disclose, teach or suggest each and every limitation of any one of Claims 14-20. For example, neither Soga nor Ma disclose at least the following limitations of Claims 14-20:

"a replaceable ink container for holding a primary supply of pigmented liquid ink . . . a screen disposed in the containment vessel and across the interconnect opening . . ."

and

" . . . the fluid interconnect opening and the screen is brought into contact with the fluid interconnect inlet port when the ink container is installed in the receiving station."

as recited in Claim 14. Neither Soga nor Ma disclose, teach or suggest the quoted limitations in the claimed combination, for reasons given above with respect to Claims 8-13. The ink passing member 7a of Figs. 3 and 4 of Soga prevents the inlet port from coming into contact with the meniscus member 5a. The rejection of these claims should be reversed.

Claims 21-26 and 32-38

At page 10 of the Examiner's answer, the Examiner asserts that Soga's element 7a is a reservoir material. This assertion has been addressed above, regarding the labeling of FIG. 1A of Soga. The element 7a is an ink passing member, and is positioned downstream of the meniscus member 5a, outside the ink chamber 3a. The element 7a is described as having a capillary force to ink and providing a low flow resistance to ink. The function of element 7a is described at 8:42-55, and fabrication of the element at 8:56 to 9:11.

The examiner asserts that the description in Soga at 8:58-59 is in error, and should state that no ink drips from the ink passing member when the ink tank is removed, citing the description at 13:7-11. It is not clear that the description is in error, in view of the description at 9:10-11 that the flow resistance of the ink passing member is low. Moreover, the description at 13:7-11 referred to by the Examiner is of a different ink tank embodiment, i.e. one in which two meniscus members are employed, with an intermediate chamber between the two meniscus members. The capillarity of the second meniscus member is higher than that of the capillary member filling the main ink chamber. Thus, the description at 13:7-11 does not apply to the meniscus member 5a of Figs. 3-4.

The Examiner asserts that the ink passing member 7a reads on the limitations of Claims 21 and 32, "providing the ink container with an interconnect outlet port and with a body of reservoir material disposed in the container, the body of reservoir material having a region adjacent to and in contact with a screen disposed within the container and across the interconnect outlet port," and "a body of reservoir material disposed in the containment vessel, the body of reservoir material having a region adjacent to and in contact with the screen." The Examiner states that the reservoir material (7a) has a region that is adjacent to and in contact with the screen (5a). Appellant disagrees that Soga can be read on Claims 21 and 32 in this manner. Ink holding member 4a is the reservoir material which is in the ink container, not ink passing member 7a. Element 7a is outside the ink chamber 3a which holds the ink.

The Examiner also asserts that ink passing member 7a is compressed by the screen 5a. Appellant respectfully disagrees. The ink passing member 7a fills the space between the meniscus member 5a and the head meniscus member 13a when the ink tank is connected to the printhead. Soga states that

the ink passing member is "little deformed" when the ink tank is connected (10:15-16); this is said to be an advantage in that "it does not take place that the volume of the ink passing member is varied and air enters the passage." (10:16-18). Thus, Soga teaches away from the meniscus member 5a "compressing the region of the body of reservoir material adjacent to the screen and forming a region of increased capillarity adjacent the screen." The passage at 14:48-58 referenced by the Examiner as supporting the rejection is to a different embodiment than that of Figs. 3-4, and so the description is not applicable.

Appellant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness with respect to Claims 21-26. Neither Soga nor Ma, alone or in combination, disclose each and every limitation of any one of claims 21-26. For example, neither Soga nor Ma disclose, teach or suggest at least the following limitations of claims 21-26:

" . . . the body of reservoir material having a region adjacent to and in contact with a screen disposed within the container and across the interconnect outlet port . . . "

and

" . . . bringing the screen into contact with the fluid interconnect inlet port, thereby compressing the region of the body of reservoir material adjacent to the screen and forming a region of increased capillarity adjacent the fluid interconnect outlet port . . . "

as recited in Claim 21. Neither Soga nor Ma disclose, teach or suggest at least the following limitations of Claims 32-38:

" . . . the body of reservoir material disposed in the containment vessel, the body of reservoir material having a region adjacent to and in contact with the screen . . . "

and

" . . . the fluid interconnect inlet port contacts the screen thereby compressing the region of the body of reservoir material adjacent to the screen and forming a region of increased capillarity adjacent the screen."

as recited in Claim 32.

Appellant respectfully submits that the Examiner has not established a prima facie case of obviousness with respect to Claims 21-26 and 32-38 at least for reasons similar to those given above with respect to Claims 8-13 and 27-31. Further, while the Examiner's answer now for the first time addresses the failure to make any findings with respect to the limitation of "compressing the region of the body of reservoir material adjacent to the screen and forming a region of increased capillarity adjacent the fluid interconnect outlet port," as pointed out above, the findings are based on structural features of Soga which do not read on the claim limitations. Moreover, neither one of Soga and Ma, alone or in combination, disclose, teach or suggest this limitation. The rejection of Claims 21-26 and 32-38 should be reversed.

Claims 6, 19 and 37

Claims 6, 19 and 37 have been rejected as being unpatentable over Soga in view of Ma and further in view of Dietl et al.

The Examiner asserts that it would have been obvious to replace the filter of Soga with a polyester mesh filter of Dietl. Even assuming arguendo that Soga is so modified, there is no allegation that Dietl supplies the teachings missing from Claims 1, 14 and 32 as discussed above, and so a prima facie case of obviousness has not been established. Dietl is not concerned with the use of pigmented ink in an inkjet printer, and so is not concerned with problems associated with use of pigmented ink.

VII. SUMMARY

The rejections under 35 USC § 103 must be reversed. A prima facie case of obviousness has not been made, and the cited references do not teach or suggest the claimed invention.

Respectfully submitted,



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